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Why Florida Growers Fail To Get Together

Student of Situation Says Growers Possess Too Much "Rugged Individualism"

By JEFFERSON THOMAS

November activities in the Florida citrus industry took on widely varied forms and progress toward the solution of numerous pressing problems was unquestionably made. Appraisals valuing the net accomplishments nevertheless develop few indications that the fruit millennium has dawned or even approached the horizons of the belt in which grapefruit, oranges and tangerines afford agriculture its principal cash crop. Studies which seek to ascertain just why growers and shippers find so great difficulty respecting an united front on marketing methods and related practices will discover that foundations for the existing conditions were laid far back in the state's history. Human elements have been dominating factors in the past performances of Florida and its most spectacular rural resource and they furnished the background for the recent differences which divided the citrus industry leadership into separate camps on several vital issues. In some respects the late occurrences have borne a distinct family resemblance to happenings first recorded decades ago and frequently repeated during the intervening years.

Efforts put forth in the last thirty days that sought improved standards for output offered northern consumers were particularly noteworthy because of the degree to which they duplicated erstwhile endeavors. State

and federal laws give the agencies charged with their interpretation and enforcement broad powers and wide latitude regarding regulations effectuating the enactments. Juice content requirements pertaining at least to grapefruit may be raised or lowered so they fit changing complications. Proposals to increase the minimum proportions for a few weeks brought on an animated debate in the State Citrus Commission, it will be recalled. Action finally taken in an affirmative way came by a seven to four vote, the negative side having been composed of the three Polk county members and just one commissioner from another area. Steps toward a new "permissive" juice grade under the United States Agriculture Department standards produced arguments favoring the innovation from a citrus commissioner who has been prominent in grower organizations while the opposite viewpoint was presented by a shipping group executive.

Research plans for the Commission, to recommend which the legislature established a special advisory committee, caused extended discussion. Members attacked their colleagues for alleged dilatory tactics and threatened to stage sit-down strikes unless the proceedings were speeded up. Meanwhile, the advertising planned for the season had been shaping itself, not without uncovering controversial aspects. Miracles expected

from the agency which the citrus commission had engaged to handle the details, its heads undertook performing, thereby probably laying up for themselves "grapes of wrath" in vintage that must be trampled out before the records are closed. Commodity campaigns lacking trade-names identification for the product which household buyers understand and trust always offer heavy handicaps on the selling appeal. Suggestions that the deficiency be supplied through seasonal grades for fruit which certain circles advanced attracted opposition on the ground that they would make confusion worse confounded, and the arguments grew heated before the industry attitude toward the proposition came to a jell.

Purchases of surplus grapefruit and oranges by the federal government promised great things when first authorized. Details for the transactions not long afterwards gave the deal lessened attractiveness and influential Florida interests found parallels to the old-time horse-trading adage that gift nags should seldom have their mouths inspected closely. Congress seemed receptive to recommendations from a special joint Senate and House committee which propped ajar the doors of the United States treasury for Mediterranean fruit fly eradication damage claims reimbursement. Groups that had

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Fertilizer Experiments In An Orange Grove In The Eastern Everglades....

By J. R. NEETLES and W. L. FORSEE, Jr.,
Everglades Experiment Station, At Meeting
of Florida State Horticultural Society

The grove of Lou Gim Gong oranges in which these fertilizer experiments are located is in an area lying south of the North New River Canal about 15 miles southwest of Fort Lauderdale and extending westward from the town of Davie. The soil consists of a layer of fibrous peat from 15 to 24 inches deep, lying upon a porous marl rock. In places a layer of sand is found between the peat and the marl and in some spots

hibited zinc deficiency while those that had received the soil treatments of zinc sulfate did not. It may be observed that the soil applications of copper sulfate made in 1935 and 1936 reduced to a measurable extent the ammoniation on fruit harvested from these trees in 1937.

In another grove of this area a series of fertilizer plots was laid out in 1934 using the 16 different treatments in Table 2. Three plots were

a yearly rate of 12 pounds per tree. The fertilizer materials are sodium nitrate, ammonium sulfate, castor pomace, acid phosphate (45% P₂O₅), and sulfate of potash. In those mixtures containing floats (rock phosphate) and basic slag these materials were used in amounts to give three times the P₂O₅ content of the acid phosphate treatments.

The first harvest was obtained from the trees of these plots in 1937 and Table 2 records the four year average (1937-40) of the weight of fruit and of its grade as obtained by passing the crop through a commercial packing house. It may be observed (Table 2) that the harvest of fruit was rather late in the season and this may account in part for the comparatively low percentages of oranges in Grade 1.

Field examination of crop now on the trees showed that fruit on low phosphate trees of Treatments 4 and 5 is sour with thick rinds. Fruit and trees of high phosphate Treatments 8 and 9 have copper deficiency symptoms. A year ago (spring of 1940) these trees were given soil treatments of one pound per tree of each of the

Table 1. Effect of copper and zinc sulfate treatments upon ammoniation of oranges of April 20, 1937 harvest in Davie area.

Treatments of March 1935 and March 1936	Ammoniation of Fruit
Soil applications of zinc sulfate ranging from 1 to 5 lbs. per tree	% 21
Spray applications of zinc sulfate ranging from 1 to 3 lbs. per 50 gal.	18
Soil applications of copper sulfate of 1 and 2 lbs. per tree	4
Combinations of soil applications of zinc and copper sulfates	11
Checks, no treatment	21

either the marl or the sand comprise most of the surface layer. Most of the lands have a covering layer of peat, however, and on these the reaction of the surface 12 inches ranges from pH 4.8 to 5.5 with higher values at deeper depths.

There are about 4,000 acres of citrus in this area, mostly of the Valencia type orange. Considerable of the planting is not yet old enough to bear fruit. The planting procedure has been to scrape the surface soil into broad, low ridges 30 feet apart with the trees 20 feet in the row. Water control is mostly by gravity flow with retention or control dams in the main outlet ditches. Low lift pumps are also being installed to some extent and this practice will probably be increased as the groves become older.

Experimental

Since some of the groves indicated a condition of zinc deficiency as shown by leaf chlorosis of the type known as frenching or mottle leaf, the earlier experiments were with zinc sulfate in both spray and soil treatments. These are summarized in Table 1. The treatments were made in an area of young trees that showed considerable frenching. Two and one half months after treatment the zinc sprayed trees showed considerable improvement. About a year after treatment the trees that had been sprayed with zinc sulfate again ex-

hibited zinc deficiency while those used for each treatment and each plot consisted of four trees with buffer trees between plots. The trees were six years old when the plots were established and the fertilizer application per tree has been increased from two pounds per tree per year to

Table 2. Fertilizer treatment, grades and yields of oranges from fertilizer plots in Davie area (four year average, 1937-40).

No.	Treatment	Grade 1 %	Grade 2 %	Grade 3 %	Culls %	Wt. of Fruit per Tree lbs.
1*	0-12-12	23.6	59.3	14.8	2.3	192
2*	0-12-24	19.3	55.8	20.4	1.9	205
3*	6-12-24	14.9	54.4	28.2	2.8	197
4	3-0-12	16.4	52.4	23.0	8.3	165
5	6-0-12	11.6	56.9	23.0	8.6	176
6	3-6-12	8.6	60.9	30.0	3.0	190
7	3-6-24	14.7	57.7	26.2	1.5	218
8	3-12-12	7.5	61.7	28.5	2.4	193
9	3-12-24	7.8	57.7	31.8	2.8	204
10	6-6-12	15.2	56.5	26.0	2.4	206
11	3-6f-12					
	f(floats)	8.5	55.6	32.6	3.4	199
12	3-6c-12					
	c(colloidal) phosphate	12.3	57.8	26.8	4.2	191
13	3-6b-12					
	b(basic slag)	12.1	57.8	32.4	2.7	207
14	3-6d-12					
	d(dicalcium phosphate)	16.8	56.2	24.3	2.8	220
15	3-6fs-12					
	fs(floats and super)	16.2	53.6	26.5	9.7	222
16*	3-6-24m					
	m(muriate)	17.0	56.3	24.6	2.2	217

Harvest dates were April 20, 1937, May 12, 1938, May 18, 1939 and July 10, 1940.

*Treatments for 1937 and 1938 were 0-0-6 for No. 1, — 0-0-12 for No. 2, — 0-0-24 for No. 3 and 3-6-12 using potassium carbonate for No. 16.

sulfates of copper, manganese and zinc. Additional copper sulfate at the rate of two pounds per tree has been applied this spring (1941).

The effect of lack of phosphate in treatments 4 and 5 (Table 2) was noticeable in the 1940 crop as shown by considerable drop of fruit before harvest and by the softness of fruit that was picked. This softness was the main cause of the high percentage of culls as given for Treatments 4 and 5 and to a lesser extent for Treatment 12 in which colloidal phosphate was used. No explanation is

er reduction in acidity. The rinds of fruit from trees without phosphate were measurably thicker as shown by measurements in 1940 and 1941.

Future harvests should give a better picture of these phosphate relationships as it is probable that sufficient copper sulfate has now been applied to these trees, as discussed above, to insure that copper deficiency will not be one of the variables.

As the fruit from these fertilizer plots was passed through the packing house a record was obtained of the number of oranges of each size

er, calculated from these commercial sizes. The average size of all treatments was found to be represented by the number 236 from which a dotted line is drawn across the graph. It may be observed that the high potash treatments produced the larger sizes. Thus the size locations of fruit from 0-0-24, the 3-6-24 and the 6-12-24 treatments are down in the lower part of the graph.

This paper should be considered only as a progress report on these fertilizer experiments and it is to be expected that the effect of potash and phosphates upon size and grade of fruit will be more clearly shown in future harvests from these plots.

The experiments are being conducted in cooperation with the Florida Agricultural Research Institute, whose Manager is Mr. Frank L. Holland. The fertilizer plots are located in Flamingo Groves, Inc., whose president, Mr. Floyd L. Wray, the writers wish to thank for his help in obtaining field records and grade and size records as the fruit was passed through his packing house.

In spite of bad breaks here and there, 1941 will go down on the books as the year of greatest total agricultural production in the history of the United States.—Claude R. Wickard.

Table 3. Analyses of fruit from plots receiving increasing amounts of super phosphate.*

Date Sampled	Fertilizer Treatment	Brix at 18°	Citric Acid %	Brix Acid	Rind Thickness mm.
3/25/38	3- 0-12	13.8	1.19	11.6	no data
	3- 6-12	14.2	1.04	13.7	no data
	3-12-12	13.1	0.92	14.2	no data
3/10/39	3- 0-12	14.35	1.38	10.2	no data
	3- 6-12	13.97	1.30	10.8	no data
	3-12-12	13.47	1.13	11.9	no data
3/14/40	3- 0-12	13.22	1.27	10.4	3.9
	3- 6-12	13.15	1.20	11.0	3.5
	3-12-12	12.20	1.13	10.8	3.6
1/27/41	3- 0-12	13.25	1.87	7.1	4.7
	3- 6-12	13.02	1.55	8.4	3.8
	3-12-12	12.36	1.35	9.2	3.8

*Averages for replicated treatments.

offered at this time for the high cull percentage for Treatment 15 in which half of the super phosphate was replaced by floats.

Analyses of oranges for the four harvests, 1938-41 inclusive, show (Table 3) that fruit from the trees that received the 3-0-12 or no phosphate since 1934 was more acid than that where a 3-6-12 fertilizer was used. Doubling the phosphate (3-12-12 mixture) caused a slightly great-

er for each grade. For purposes of comparisons between fertilizer treatments and size of fruit a graph was constructed (Figure 1) showing the average size of fruits of all grades for the four harvests (1937-40) for each of the 16 fertilizer treatments. It should be observed that this average of sizes does not in most cases give numbers that are of the same numerical values as those of commercial sizes. The averages are, howev-

SIZES

242 .	6-0-12 and 3-6-12 (Floats and Super) *
241 .	3-12-12 *
240 .	3-6-12 and 3-6-12 (Dicalcium) *
239 .	3-6-12 (Floats) *
238 .	0-12-12 and 6-6-12 *
237 .	
236 .	Average size * Treatment 16, Table 2


235 .		* Treatment 2 Table 2
234 .		
233 .		* 3-6-12 (Basic Slag)
232 .		* 3-6-12 (Collodial)
231 .		
230 .		* 3-0-12
229 .		
228 .		
227 .		* 3-6-24
226 .		* 0-0-24
225 .		
224 .		
223 .		
222 .		* 6-12-24

3 9 7 4 12 13 2 16 1 11 6 8 5
and and
10 14

TREATMENTS

Fig. 1. Four year average of sizes of oranges from fertilizer plots of Davie Area (3 plots of 4) trees each or 12 trees per fertilizer treatment).

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FRUIT PACK REGULATIONS ADOPTED

Acting on recommendation of the Growers and Shippers League, the Florida Citrus Commission has adopted an amended packing regulation designed to solve the "bulge pack" problem, which it is hoped will prove satisfactory to both the growers and shippers and the railroads.

Action was brought about by the proposal of the carriers to limit the "bulge for each kind of fruit not to exceed one-half the diameter of the marked commercial size of the fruit packed therein."

This proposal met with opposition on the part of practically all growers and shippers, and this opposition was led by the Growers and Shippers League on behalf of the industry.

Under the regulations approved by the railroads and the industry representatives, and adopted by the Commission, the following maximum "bulges" are to be permitted in various containers for citrus moved by rail, truck or boat:

Wirebound boxes, one and one-quarter inches for oranges and one and one-half inches for grapefruit; standard nailed boxes, one and three-quarters inches for oranges and two and one-half inches for grapefruit. No change was made in the tangerine pack already in effect under the railroad tariff.

The Citrus Inspection Bureau will handle the certification of the maximum "bulge", eliminating the necessity of inspection on the receiving end. This job, it is said, can be handled by the State Department without the necessity of adding additional men.

The Commission's action meets with general approval among both growers and shippers.

FLORIDA'S ORANGE FESTIVAL

Much interest is being manifested in the Eighteenth Annual Orange Festival which will open in Winter Haven on January 19 for a full week's session.

Originally established as a purely Polk County affair, the Orange Festival quickly developed into a statewide project, attracting exhibits from every portion of the Florida Citrus Belt and vieing with the major fairs and exhibitions of the state in public favor.

President John A. Snively, jr., of the Association states that a large number of packing associations and canning plants have already purchased space for exhibits, which are expect-

ed to greatly exceed those of any previous showing.

The Florida Orange Festival is a really worthwhile affair, affording as it does an opportunity for winter visitors to Florida to become acquainted with the extent of the industry in the state as well as with some of the major processes of production, packing, canning and marketing. Newcomers to Florida, and even citrus growers themselves, find in the Florida Orange Festival the opportunity to observe what growers in other citrus sections of the state are doing, to rub elbows with other growers and enjoy a period of profitable observation and well earned recreation.

In addition to the vast citrus exhibits, the Festival provides ample amusement features which will be well worth seeing. As Florida's outstanding citrus show, it deserves well at the hands of citrus growers.

GOVERNMENT CONTINUES PURCHASES

Announcement that the Federal government will purchase several million boxes of fresh citrus fruit and a vast quantity of canned citrus fruit and juices during the present season, should have a stimulating effect upon the market. Taken in connection with the greatly increased purchasing power of the ultimate consumer, this should assure a steady demand at favorable prices.

With an orange crop for the nation as a whole no more than normal and a grapefruit crop much below normal, it would seem that growers are facing a season of much more favorable returns than for some years.

However, the problem of orderly marketing must be reckoned with, and growers and shippers should be on the alert to see that there is no flooding of markets with the inevitable break in prices. Properly handled, the present season should be one of profit for both growers and shippers.

CITRUS MARMALADE FOR BRITAIN

The government is asking manufacturers of grapefruit and orange by products for offers for the manufacture of citrus pulp to help supply British marmalade needs.

The plan as announced by the government is for the federal authorities to purchase the fresh fruit to be turned over to canning plants for processing, the pulp then to be shipped to Britain under the terms of the Lend-Lease act for manufacture into marmalade, a staple in the British diet.

Fresh grapefruit is now available to families taking part in the Food Stamp program. This is the first time fresh grapefruit has been available under the Food Stamp plan since last June. Coming at a time when grapefruit shipments are at the highest, this should still further stimulate consumption in quarters not normally counted upon, while making a valuable contribution to the diet of low income families participating in the Food Stamp plan.

Quality fruit cannot be produced from scrub trees.

Control Of Termites In Citrus Groves

J. R. WATSON, Entomologist
Florida Experiment Station

The time of year is here when citrus growers will be banking their young trees as a protection against a possible freeze this winter. The earliest date of a freeze that damaged young trees over the citrus belt, of which we have record, was that of November 16 of last year. However, we seldom have a freeze dangerous to citrus much before Christmas; but growers who have not already banked their young trees should do so within the next month. It is not advisable to bank trees earlier in the season than is necessary for protection against frost, because banked trees are liable to be attacked by insects, particularly during warm weather. The most destructive of these insects are termites, also called white ants, and in Florida, "wood lice".

Although resembling true ants in appearance, except for the color of the workers which is dirty white, they are not at all closely related to true ants, but rather are more closely related to cockroaches. However, they do have much of the colonial organization of true ants, with fertile females, called queens, males, and working castes. They are primarily feeders on wood, or materials made of wood. They are able to digest such unpromising material because of the presence in their intestines of minute primitive one-celled organisms which break up the wood. They feed mostly on dead wood, but having consumed this and facing starvation, they may attack living wood.

The danger in banking trees is that infested pieces of wood may be included in the bank. When the termites have consumed this they are liable to attack the bark of the young trees, often girdling them and, of course, causing their death. For this reason growers in banking their trees should take pains that no dead wood is included in the bank. Only good clean soil, or preferably sand, should be used. It is also important that any dead branch or wood which will be covered by the bank be removed before the tree is banked, and the wound if large should be covered with some good asphalt paint or tar which will be repellent to the termites.

Whitewashing the trunks of trees will also help, providing the white-

wash is made thin so it will stick closely to the bark of the tree. To each three gallons of whitewash add a handful of common salt to make it stick better. If the whitewash comes away from the tree in flakes it will be worse than if it was not used at all, as it will furnish a convenient hiding place for the termites.

The danger of including dead wood in the bank is greater, of course, in newly cleared land; and it is such land that is commonly used for young citrus groves.

Other pests which should be excluded from the banks are ants. Ants nesting about the base of young trees are very injurious, and will often kill them particularly if the bank is put up too early or left too late in the spring; in other words, if present during warm weather. If the young tree has an ant nest around it the ants should be destroyed before the tree is banked. This is best done by digging out a shallow basin around the base of the tree and pouring into this basin a quart or so of carbolic acid emulsion. This is made by emulsifying a pint of crude carbolic acid, a pound of soap, fish oil or common laundry soap, in three gallons of water. The water should be heated and the soap dissolved in it and then the pint of carbolic acid added. This is best emulsified by forcing it through a spray pump several times until one gets a good, smooth emulsion. This emulsion has been found to be perfectly safe when used on young trees and it will drive ants away. Young trees with ants around them should be treated in this manner before they are banked. Don't ever bank a citrus tree that has a nest of ants around it, as the risk to the tree from damage by ants will be greater than the risk from cold during the winter.

It is an excellent idea to reduce the number of ants in a grove by treating their nests wherever seen. Besides the injury we have mentioned, ants cause indirect injury by lending aid and comfort to some of the citrus trees' worst enemies. They are fond of sweet liquid, honeydew, excreted by plant lice and some scale insects, mealybugs, leafhoppers, and treehoppers. They constantly attend these insects and interfere with oth-

er insects which would parasitize or eat them. The ants even carry these honeydew-secreting insects about and place them on favorite food plants.

After heavy rains is a favorable time to locate ant nests. Rains cause ants to bring up much fresh soil and build their nests higher, making them more conspicuous than during dry weather. Also, the barren areas about the nests of the agricultural ants are more easily seen when the fields have their maximum growth of vegetation. With a sharp stick make a hole in the center of the ant hill and pour into it a tablespoonful, or more in the case of a large nest, of carbon bisulfide, then at once stamp the dirt over the hole. Remember that carbon bisulfide, when mixed with air, is explosive and do not smoke during its application.

As soon as the danger of severe freezes is past, about the last of February, the banks should be pulled down, as both termites and ants get more active as the weather warms up in the spring.

The termites we have been speaking of are the subterranean termites, so called because they must have contact with the ground.

There is another, much larger termite which occasionally attacks trees in a very different way. These are known as dry wood termites. Getting into the center of the tree, usually through a wound where decay has started, or in a wound in the roots, this larger termite works up and

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Farm Income This Year Should Reach \$10,000,000,000; Farm Costs Up Also

Consumer demand for farm products is increasing less rapidly now than in the first eight months of this year, the United States Department of Agriculture reported recently. But prospects for farm prices and income continue above 1940, and total income from marketings of farm products is expected to reach \$10,000,000,000 this year. Cash income from marketings in 1940 totaled \$8,354,000,000. The Department points out, however, that part of this gain is being offset by higher prices of food and services bought by farmers.

Basis for the high level of consumer buying power is the record volume of production of industrial goods. Total industrial output has been fluctuating around the high levels of mid-summer, and Department economists have begun to note a marked shift from the production of civilian durable to defense goods. These economists say that this should increase civilian purchases of nondurable goods, including food, clothing and other products made from farm commodities. They say there is also strong speculative and storage demand for agricultural products.

Export demand for cotton, wheat, and tobacco is small as compared with pre-war years, but increasing quantities of dairy and poultry products, meats, fruits and vegetables are now being exported under lease-lend programs. Farm production goals announced by Secretary Wickard recently indicated that export needs for these products will be practically doubled during the coming year. A nation-wide production expansion campaign to get the increased volume of production for export and domestic requirements is underway.

Department economists attribute recent rapid advances in wholesale commodity prices to a decrease in supplies of materials for civilian goods, to heavy consumer buying, and an increase in speculative activity. These price-boosting influences have replaced, it is stated, some of the factors which were relatively more important in the earlier general price advance. However, government controls of prices of a number of raw industrial materials and of ocean shipping rates have been effective since July in preventing any further general advance in prices of imported commodities and industrial

raw materials.

Fruits

Indications on September 1 were that total fruit supplies in 1941-42 may be 6 per cent larger than in the preceding season. The combined production of 8 major deciduous fruit crops (peaches, pears, grapes, cherries, plums, prunes, apricots, and commercial apples) is indicated to be about 12 per cent larger than in 1940. Present indications are that the combined production of all citrus fruits probably will be slightly smaller than for the 1940-41 season. Increased demand on the part of domestic consumers for fruits and fruit products, and Government buying under the food-for-defense program will affect fruit prices favorably and will in general more than offset influence of larger supplies.

CONTROL OF TERMITES IN CITRUS GROVES

(Continued from page 9)

down in the trees, particularly grapefruit trees, until it has mined the interior of the tree so that it often is a mere shell. Mr. Thompson of the Citrus Experiment Station at Lake Alfred has found these termites up in a tree as much as ten feet from the ground. Such a tree usually has an unhealthy look. The foliage is likely to be yellow, the fruit small and of no value, but looking at the tree from the outside there are no visible signs of termites unless the termites get too near the surface of the bark then gumming is apt to ensue. The gum runs down the trunk and will make long streaks. If this gum is scraped away and the bark and wood cut away for some depth, one finds the center of the tree to have been hollowed out, or, one pruning off a lime will often uncover the cavity. Termites abhor light and open air and if the cavity is broken into they will hasten to repair the damage and seal up the hole with a sort of mortar which they make. So if one in pruning out the gum or cutting off the limbs of a tree runs into a cavity, it is an excellent idea to watch it for a few minutes and see if any termites come out.

If the tree is found to be infested with termites it is rather a simple matter to exterminate the colony by dusting paris green into the hole. Termites are cleanly insects and when

they get paris green on their feet they will clean them with their mouth parts, as is their habit. By this means they swallow a considerable amount of paris green. Another habit of termites spreads this poison throughout the colony. This is their habit of sharing the contents of their gullets with other termites and feeding it to the queen and to the larvae, thus spreading the paris green. By this means a termite which has swallowed an amount of paris green will usually pass it on to several others before it dies and finally the entire colony including the queen, on which the future life of the colony alone depends, is poisoned.

A few ounces of paris green dusted into a hollow tree is usually sufficient to ultimately kill the termites, and possibly give the tree a chance to recover.

This big termite has been found in other trees besides the grapefruit, which it is most apt to attack. It occasionally is found in oranges and has been found in oak trees, both in the live oaks and the willow oaks and in avocados. Probably in many cases the infestation in citrus trees is the result of migrations from oak trees in the neighborhood, or those which stood on the ground before



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the grove was planted.

One pruning or scraping the gum from a citrus tree who runs into a cavity should investigate for the possible presence of these large termites, as they are entirely capable of killing the tree outright, and if found they should be promptly treated.

GREATER ROTENONE IMPORTS FROM LATIN AMERICA SEEN

With access to normal sources of supply in the Far East threatened by shipping difficulties and other wartime conditions, increased importation of rotenone material from Latin America is now in prospect, the Department of Agriculture has announced. Rotenone, contained in the roots of a number of tropical plants, is widely used as an insecticide and none is commercially produced in the United States.

The Western Hemisphere is making good progress in developing high rotenone-content roots that can compete with the high-yielding Far Eastern derris root widely used in commerce in recent years, says Dr. R. C. Roark, in charge of insecticide investigation for the Bureau of Entomology and Plant Quarantine. Writing in the September "Agriculture in the Americas," monthly publication of the Department, he says that hundreds of root samples have been tested at the USDA Agricultural Experiment Station in Mayaguez, Puerto Rico, and many of high poison content have been found.

"While rotenone-bearing roots have for centuries been used as a jungle fish poison, their rise in commercial importance is one of the most astonishing developments in agricultural history," Doctor Roark says. "As recently as 1930," he writes, "trade in the roots was practically non-existent, yet in 1940 the United States alone imported 6½ million pounds." Only a little more than half of these 1940 imports, he points out, consisted of cube, timbo and barzasco roots from Latin America. The rest was derris root from British Malaya, the Netherland Indies and other distant countries.

"A decade ago," Doctor Roark adds, "most of the derris roots of commerce contained only 1 or 2 per cent of rotenone. Now material is available that contains 10 or 12 per cent. This was accomplished in the East by careful selection of high-rotenone content roots and propagation from this stock only.

"Numerous tests have shown that rotenone is of equal quality, whether produced from the barzasoc of South America or the derris of the East."



For National Defense Grow More Abundant Crops

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The fertilizer program we offer is outstanding.

NITROPHOSKA

A rich, COMPLETE fertilizer; a grade for every need, including mixtures containing the necessary minor elements.

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Scientifically produced in our modern plant and economically priced.

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JACKSON GRAIN COMPANY

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Tampa, Florida

WHY FLORIDA GROWERS FAIL TO GET TOGETHER (Continued from page 5)

fought for this federal recognition of growers who sustained losses complained that the formulas would be unfair — and that contest went into extra innings. Forecasts foretelling frosts did not fall, because beaten back by unusual air mass flows from the Caribbean, drew criticism directed at the Federal-State Horticultural Protection Service, jointly sponsored in the United States Commerce Department and the State Agricultural Experiment Station system.

Tendencies toward "rugged individualism" thus recurrently revealed by citrus industry factors have been honestly come by in Florida. Mostly settled with people who wanted the liberty to live their own lives, the state has been slow about accepting regulations and restrictions almost from the very beginning. Opportunity for worshipping God according to the dictates of their own consciences was sought by many among the pioneers. Freedom from restraints under forms of governments with which they did not agree others moved into the wilderness to assure themselves and their descendants. Penalties assessed against them for alleged infractions of social, property or political codes caused numerous others to establish residence and seek sanctuary amid the primeval forests or the vast swamps covering the peninsula. In some instances, it is recorded that the newcomers had previously tangled with community sentiment whence they came regarding the changed inability to distinguish between "mine and thine."

Neighbors were not always highly esteemed by the early arrivals, and frequently they located where contacts with the whites who preceded them could be had only at infrequent intervals. Self-reliance necessarily became a cardinal principle in the conduct of their affairs by the settlers. Rights and title to the life, the liberty and the pursuit of happiness they claimed were soon disrupted by the Indians. Warfare with the tribes could be waged only on a spasmodic and largely inefficient basis, and as a general thing each family had to defend its own. Even after the United States took over and armed forces moved into the territory, these made slow speed in subduing the savages. Florida still stayed in considerable degree a governmental "no-man's land" following the admission to the Union. Federal forces received no little support when they invaded the area during the "War Between the

States," though officially Florida had seceded with the South and joined the Confederacy.

Struggles for sustenance were severe, even stupendous, throughout the formative period. Orange seeds dropped by the Spanish explorers had sprouted and the young trees formed wild groves over numerous sectors. Settlers served the fruit as a supplement to the meager meals the soil yielded when fields and gardens had been cleared and cultivated. Eventually sour orange stock transplanted onto home acres grew into the seedlings that introduced citrus culture as an agricultural activity. Output from these specimens ultimately afforded more oranges than could be utilized for home consumption and the surplus was exchanged at trading posts for the rare things the land did not produce. Grapefruit subsequently entered the picture, and soon the supply exceeded the local demand. Shipping citrus to northern markets built itself up slowly and for a long time was attempted only along the major watercourses.

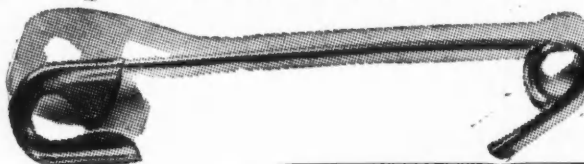
Packaging the product was not popular. Trouble was experienced by Mistress Frank Leslie in persuading

growers to ship grapefruit experimentally, in discarded barrels. Organizations for marketing purposes received scant support at the hands of most grove owners descended from the early settlers. Urge for catering to distant buyers and consumers was almost altogether absent. Output enlarged so rapidly just preceding the "big freezes" that steps just had to be taken, however. Membership for the groups then formed chiefly came from comparatively recent arrivals, principally retired business and professional men whose careers had made them more conscious concerning the needs of the time but without removing wholly the disposition toward fighting their own battle as individuals.

Movements started when production had recovered from the severe cold snaps, some fifteen years following, had the chief sponsorship from the last-described element. Cooperation had not yet been accepted as the solution for the industry stress and its practice was on a severely circumscribed scale. Years occupied by the last World War taught the lessons of harmonious accord with

(Continued on page 18)

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For everything
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• The right plant foods in the right amounts at the right time is the sum and substance of better crops! GULF Brands of Friendly Fertilizers and GULF Field Service combine to give you fertilizers that fit YOUR soils. Ask your local GULF Field Man to recommend a "down to earth" fertilization program for you. You'll be ahead in the long run!

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THE GULF FERTILIZER COMPANY

Tampa and Port Everglades, Florida

What Would Hitler Give For An Army Like This?



Food for Freedom . . . the Spirit of 1942

Cows to give 125,000,000,000 lbs. of milk; hens to lay 48,000,000,000 eggs; 79,000,000 hogs to give up their lives; 750,000,000 chickens for poultry meat . . . and so on. These are food production goals already set for 1942.

WHAT would Hitler give for this army? The best answer to that question is . . . what *wouldn't* he give?

This army of cows, hogs and chickens, not to mention other livestock and food crops — which no nation but ours can raise — is the army that will win the war; the army that will dictate terms; the army that will establish a world order in which free men can live in peace with their fellows and find favor in their Creator's eyes.

This army is being mobilized now on our farms . . . mobilized for greater food production in '42 than in any previous year. The future of the whole civilized world is bound up with our effort to produce all the vital foods, rich in nutritional value, which our own huge defense program demands, and which heroic Britain requires.

The job we have undertaken is tremendous. It involves sharp

increases in livestock, poultry, eggs and dairy products.

Your nation asks you to roll up your sleeves and produce as you never have before. Farmers are the only Americans who can do this one job which is the absolute rock bottom of national defense.

Your farm is a munitions plant. Food is as vital as guns, bombs, ships, tanks or planes. Foods from your farm will build our own strength and morale. Those self-same foods are the very core of Britain's defense, the stamina and spirit of her people. It is up to us in 1942 to furnish one-fourth of all the animal protein food that Britons eat — enough to feed 10,000,000 people.

Food is the biggest gun in the whole war . . . and we can produce more food and better food of the needed kinds than any other nation in the world. "Food for Freedom."



YOUR FARM CAN HELP
★ UNITED STATES DEPARTMENT OF AGRICULTURE ★

This is one of a series of reports from the United States Department of Agriculture published by the Chilean Nitrate Educational Bureau, Inc., in furtherance of the Nation's agricultural defense program. Publication of this report in this space does not constitute endorsement by the United States Department of Agriculture of any commercial product.

The LYONIZER

Department

COMPILED BY THE LYONS FERTILIZER CO.

Reports of Lyons Field Men . . .

SOUTHWEST FLORIDA

F. W. (Felton) Scott

The weather has been extremely warm for this section and both citrus and vegetable growers are having their difficulties. Citrus crops are very slow in reaching maturity and vegetable growers are having difficulty in getting their fruit set on their plants. Vegetable growers have been having a great deal of trouble with insects in this section and the fight has been on in earnest to keep these pests under control. Vegetable and citrus prices are good throughout the section and everyone is optimistic over the outcome for the season.

HILLSBOROUGH & PINELLAS COUNTIES

C. S. (Charlie) Little

Our growers in this section are going forward with their fall application of fertilizer. Those growers that have not already made this application will do so during the very first part of December. There is a general feeling of optimism throughout this territory and growers are getting a better price for fruit than they have in a number of years.

NORTH CENTRAL FLORIDA

V. E. Bourland

We had some very nice rains during November that were extremely beneficial to citrus groves throughout the section but in some cases were detrimental to vegetable crops. This section is experiencing some difficulty in getting fruit to pass various shipping requirements and as a result we have not had unusually heavy shipments from this section. Prices prevailing for the past few weeks have been satisfactory and if they will continue throughout the season it looks as if we will make some money.

WEST CENTRAL FLORIDA

E. A. (Mac) McCartney

Groves are going into the hazardous part of the winter in excellent condition. We have had plenty of rain during the past several weeks to insure us against any drought during the winter months. Furthermore, in connection with this rain that we have been having it has created a feel-

ing among growers in this section that we are insured of healthy condition of trees next spring when the bloom will put in an appearance. Vegetable crops in this section are looking fine and those growers fortunate enough to have any kind of produce on the market at this time are getting fine prices.

EAST COAST AND LAKE SECTION

The lower east coast around Dania is preparing for one of their largest plantings in some years. There are some vegetable crops being moved from both the east coast section and the lake section and the prices have been exceptionally good. The rains during November caused some damage but with favorable conditions from now on through the season will allow both the lake and East coast section to count the season successful.

POLK COUNTY

J. M. (Jim) Sample

We have seen a heavier drop-page of fruit this fall than we ever remember seeing before. This has been especially true in the case of Valencia oranges but we are glad to report that this condition is somewhat better at this time. Growers have been very generally making application of better grades of fertilizers with needed secondaries this fall and those growers that have not already made this application will do so during the early part of December.

Captain E. K. Brockway, owner of 90 acres of grove in South Clermont, and a customer of ours for over five years, week before last shipped 103 boxes of tangerines, which netted back on the tree \$4.65 per box. Capt. Brockway has also just sold his Pineapples — about 3,000 boxes — for \$1.25 net on the tree.

We are very glad to have Mr. James A. Martell of Vero Beach as an agent for our Company in the Vero Beach and Fort Pierce sections. Mr. Martell is both a vegetable and citrus grower in his section and like many other agents of our Company we are sure that Mr. Martell will find the connection a very pleasant one.

Horticultural Hints

We are glad to see so many growers taking as much interest in their grove property. It has been our experience this fall that growers are making liberal applications of well balanced fertilizer with ample amounts of needed secondaries to insure carrying their trees through the winter in excellent condition and with plenty of vitality to set a good crop of fruit in the spring. To those growers that have not yet made their application we suggest that they get in touch with a Lyons Field Man immediately and work out the proper fertilizer program for their grove.

We have reminded you for the past several months that it is necessary for you to keep a close check on all kinds of insects. During the past several weeks we have seen a number of groves that have been very seriously invaded by scale insects. There are several factors that will determine whether you should use oil at this time and we will not attempt to discuss this matter here but we do suggest that you get in touch with our Field Man. He is thoroughly capable of advising with you, and will give you good sound advice about the program that you should follow. Keep close check on rust mite. They have been active and if you find them on your fruit then you should control them immediately. Pruning can be done to very good advantage at this time.

Vegetable growers in the state will find it advisable to contact one of the Lyons Field Men and discuss with him the vegetable situation during the spring. We keep our men thoroughly posted regarding what is and what will be done in other sections.

Our agent, Mr. J. M. Hemphill of Plant City reports that the first berries picked in the Plant City section last year were grown with Lyons Fertilizer. Again this year the first berries to reach the market were grown with Lyons Fertilizer. This is an excellent example of what can be done by real progressive growers when they have that Quality Lyons Fertilizer to depend on in the production of their crops.

ADVERTISEMENT — LYONS FERTILIZER COMPANY

DR. T. P. WEST

**Has Used Lyons Fertilizers Ever
Since Company Started — Says
Results Excellent . . .**

Dr. West, pictured below in his grove, lives in Bedford, Va., but owns several hundred acres of groves near Winter Garden. He has never used any other brand of fertilizer since starting with Lyons and has followed the Lyons Fertilizer Company recommendations since 1924. Dr. West states that the general condition of his trees is excellent at all times and

that his fruit is always among the very best. His early fruit this year topped the markets to which it was shipped.



USDA Asks Manufacturers for Offers On Pulp Processing

Manufacture of grapefruit pulp and orange pulp, relatively new export products in the United States, is being encouraged by the Department of Agriculture to help supply British marmalade needs, through shipment under the Lend-Lease Act.

The Department, through the Surplus Marketing Administration, is asking for offers from processing firms to manufacture the pulp under specifications based upon British needs. Under the program, fresh fruit will be purchased in citrus-producing areas by the Surplus Marketing Administration for use in plants whose processing offers are accepted.

The program follows the October 29 announcement by the Department that it would purchase, through the Surplus Marketing Administration, nearly four million boxes of citrus fruit during the coming winter season, largely in the form of canned grapefruit, grapefruit juice and concentrated orange juice.

Under present plans, processors in

the British Isles will add sugar to the pulp which is received under Lend-Lease shipment, to make marmalade, a staple in the British diet.

Strong and alert nations are built by strong and alert people. Strong and alert people are built by abundant and well balanced diets. — Dr. Hazel K. Stiebling, USDA.

WHY FLORIDA GROWERS FAIL TO GET TOGETHER

(Continued from page 14)

intensified emphasis but new elements entered the Florida endeavor about the same time. Young fellows fresh from mills and mines and universities of the North moved down, few having originated on farms. Lacking management training in most cases, these youths knew a lot about how to reform the citrus set-up, reorganize its division and market the rapidly-growing fruit volume.

In the final analysis, hardly less individualistic than the pioneers of a hundred years or more previous, the newcomers threw many a monkey-wrench into the works of otherwise promising industry machinery. Melting pot processes are exceedingly slow and that they have not

fully worked themselves out in the Florida citrus industry was demonstrated by the November calendar of events. Yet it is encouraging that forward steps were taken and the future may show the truth of the proverb: "Difficulties are but the tests which prove man's ability to overcome."

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The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

FOR SALE—800 Canco heaters, capacity ten gallons oil. About half these heaters have been used once the others have never been used. This far South we do not need them therefore want to dispose of all or any part of them at a sacrifice. Mrs. Chas. S. Douglas, R. F. D. 1, Fort Lauderdale, Fla.

PLACE ORDER NOW Fall Delivery Citrus Trees. All Varieties. Paramount Grove Service, Box 843, Lakeland, Fla. 10-6t

LAKE GARFIELD NURSERIES COMPANY

**BARTOW, FLORIDA
ALL STANDARD VARIETIES CITRUS TREES—SPECIAL PRICES
NOW IN EFFECT**

NICHOLSON'S EARLY ORANGE—

This outstanding orange of high juice content and rich and very delicious flavor during earliest maturity **SHOULD** and **WILL** bring high premiums. \$3.00 to \$7.00 per box can be realized if properly handled. Royal Purple Citrus Research Nursery, Orlando, Florida.

SUPERIOR CITRUS TREES of principal varieties. Also Persian limes and avocado trees and new varieties of tangelos. None injured by cold. Ward's Nursery, Avon Park, Florida.

ALYCE CLOVER SEED. Ripe and cleaned. Ideal cover and hay crop. Write for information. P. E. Snyder, Box 866, Lakeland, Fla.

Nicholson's High-Juice Orange

Nature's Precious Gift to the Citrus Grower

This newly developed early seedless orange which was discovered as a lone tree of considerable age has by years of rigid tests proven to be a most valuable and dependable variety possessing a truly remarkable and most extraordinary fine flavor by first part of October of every season.

Careful chemical analyses made between October 2nd and October 17th, of years 1939, 1940, and 1941 give the following amazing results:—

Juice content for all sizes 5½ to 6.14 gallons per packed box. AN AMOUNT 1½ to 2 GALLONS IN EXCESS OF COMMERCIAL VARIETIES NOW BEING GROWN FOR EARLY SHIPMENT.

Soluble solids 11.10 to mostly 11.65 to 11.75.

Ratios run from 10 to one to 14.62 to one between October 2nd, and October 17th.

FRUITS EARLY COLORING, frequently well colored by first week in October.

A beautiful-shaped medium-sized fruit averaging heavy 200's; extremely juicy and thin-skinned; smooth rind; melting flesh of delicious flavor. **EXCELLENT QUALITY.** A consistent producer of prolific crops; hangs well; fruits **NEVER SHOW DRYNESS.**

This variety not quite ready for introduction and no budded trees or budeyes for sale now. To be patented and **EXCLUSIVE RIGHTS SOLD TO ONE MAN IN EACH COUNTY.** Restricted to Sour and Sweet rootstocks; variety cannot be shipped until analysis show 10.50 to one ratio, or about October 7th. Top-working system recommended. Exclusive owners,

**Royal Purple Citrus Research Nursery
Orlando, Florida**

